

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of the Claims:**

- 1-4. (Canceled)
5. (Currently amended) A method of correlating protein-protein interaction(s) involved in one or more pathophysiological processes or one or more physiological processes with oxygen tension comprising
  - (a) screening for a protein-protein interaction between at least one protein and a plurality of proteins, where the screening is performed in room air, and where the plurality of proteins are screened concurrently;
  - (b) screening for a protein-protein interaction between the at least one protein and a plurality of proteins, where the screening is performed in the presence of decreased oxygen tension from that in room air, where the oxygen tensions employed in step (b) range from 0.1 mm Hg to 145 mm Hg, and where the plurality of proteins are screened concurrently; and
  - (c) correlating the protein-protein interaction(s) with oxygen tension by identifying at least one different protein-protein interaction between (a) and (b), wherein the at least one different protein-protein interaction between (a) and (b) is involved in one or more pathophysiological processes or one or more physiological processes.
6. (Canceled)
7. (Previously presented) The method of Claim 5 where a plurality of determinations are made in step (b) with different oxygen tensions being employed in each determination.
8. (Canceled)
9. (Previously presented) The method of Claim 5 where the different interactions in step (c) are used to identify protein functions associated with a pathophysiological process.
- 10-20. (Cancelled)

21. (Currently amended) A method of correlating protein-protein interaction(s) with oxygen tension comprising

(a) screening for a protein-protein interaction using a yeast two hybrid system between at least one protein and a plurality of proteins, where the screening is performed in room air, and where the plurality of proteins are screened concurrently;

(b) screening for a protein-protein interaction using a yeast two hybrid system between the at least one protein and a plurality of proteins, where the screening is performed in the presence of decreased oxygen tension from that in room air, where the oxygen tensions employed in step (b) range from 0.1 mm Hg to 145 mm Hg, and where the plurality of proteins are screened concurrently; and

(c) correlating the protein-protein interaction(s) with oxygen tension by identifying at least one different protein-protein interaction between (a) and (b).

22. (Previously presented) The method of Claim 21 where the at least one protein is associated with a physiological process or a pathophysiological process.

23. (Previously presented) The method of Claim 21 where a plurality of determinations are made in step (b) with different oxygen tensions being employed in each determination.

24-26. (Canceled)

27. (Allowed) A method of correlating protein-protein interaction(s) with oxygen tension comprising

(a) screening for a protein-protein interaction between at least one protein and a plurality of proteins, where the screening is performed in room air, and where the plurality of proteins are screened concurrently;

(b) screening for a protein-protein interaction between the at least one protein and a plurality of proteins, where the screening is performed in the presence of decreased oxygen tension from that in room air, and where the plurality of proteins are screened concurrently;

(c) correlating the protein-protein interaction(s) with oxygen tension by identifying at least one different protein-protein interaction between (a) and (b) and

wherein a plurality of determinations are made in step (b) with different oxygen tensions being employed in each determination.

28. (Canceled)

29. (Allowed) The method of Claim 27 where a plurality of determinations are made in step (b) with different oxygen tensions being employed in each determination.

30. (Allowed) The method of Claim 27 where the oxygen tensions employed in step (b) range from 0.1 mm Hg to 145 mm Hg.